

Exhibit 35

RE: RE: Valsartan ESO GC Results- Unknown Peaks

From: "OMahony, Kevin" <kevin.omahony@novartis.com>
To: "Quinn, Jannine" <jannine.quinn@novartis.com>, xavier <xavier@huahaipharm.com>
Cc: tangyinhua <tangyinhua@huahaipharm.com>, chenyingzhi@huahaipharm.com, "Breen, Sarah" <sarah.breen@novartis.com>, "Hu, Brad" <brad.hu@novartis.com>, "Zhu, Bin-1" <bin-1.zhu@novartis.com>, 徐冕 <xumi@huahaipharm.com>, zhuling <zhuling@huahaipharm.com>, Minda Cai <cai@huahaipharm.com>, peng dong <dongpeng@huahaipharm.com>, xiongying <xiongying@huahaipharm.com>, minli <minli@huahaipharm.com>, jenson <jenson@huahaipharm.com>, "Lynch, Niamh" <niamh.lynch@novartis.com>

Date: Tue, 05 Jun 2018 08:28:22 +0000

Attachments REP-0909_draft.docx (389.91 kB)

:

Dear Xavier,

We have done some testing in Solvias labs for Novartis of three batches of Huahai material and have a tentative assessment.

Please note in the Solvias testing Dichloromethane was not seen. I have asked the lab to confirm that this is definitely the case.

Can the Huahai colleagues please assess this and comment as soon as possible?

Tentative identification of unknown peaks detected in Valsartan (Batch 18-038M01)

Assigned Peak (tentative)	VOC	CA S No.	NI ST fit	RT (min)	RR T ₁₁₁	Comments KOM 05 June 2018
3	Propane	74- 98-6	76 7	2.0 6	0.2 9	Likely a breakdown of a longer chain alkane on the GC

Assigned Peak (tentative)	VOC	CA S No.	NI ST fit	RT (min)	RR T ₁₀	Comments KOM 05 June 2018
4	Butane	106-97-8	953	2.51	0.35	Likely a breakdown of a longer chain alkane on the GC
7	Acetone	67-64-1	999	4.21	0.58	ICH class 3. 5000ppm limit.
8	2-Propanol	67-63-0	970	4.39	0.61	ICH class 3. 5000ppm limit.
9	2-methylpentane	107-83-5	896	4.90	0.68	Isohexane so 290ppm can be assumed
11	2-methylpropanal	78-84-2	927	5.59	0.78	Other name for Isobutyraldehyde. Also seen in Huahai
13	Butanal or 2-butanone	e.g. 123-72-8	900	6.72	0.93	
15	Isopropyl acetate	108-21-4	918	9.07	1.26	Also seen in Huahai
16	Propanoic acid, ethyl ester	105-37-3	918	11.33	1.57	
17	Propyl acetate	109-60-4	933	11.57	1.61	Also seen in Huahai
19	N-	62-	99	15.	2.2	

Assigned Peak (tentative)	VOC	CAS No.	NIST fit	RT (min)	RR T ₁₁	Comments KOM 05 June 2018
	Nitrosodimethyl amine (tentative)	75-9	9	93	1	
20	Butyl acetate	123- 86-4	92 4	16. 90	2.3 5	
21	Branched alkane	Gro up ID	95 0	23. 27	3.2 3	

Tentative identification of unknown peaks detected in Valsartan (Batch 18-042M01)

Assigned peak (tentative)	VOC	CAS No.	NIST fit	RT (min)	RR T ₁₁	Comments KOM 05 June 2018
3	Propane	74- 98-6	90 8	2.07	0.2 9	
4	Butane	106- 97-8	99 9	2.51	0.3 5	
7	Acetone	67- 64-1	99 9	4.21	0.5 8	
8	2-Propanol	67- 63-0	98 0	4.39	0.6 1	
9	2-methylpentane	107- 83-5	92 9	4.90	0.6 8	
10	2-methyl-2- propanol (tentative)	75- 65-0	97 2	5.01	0.6 9	Isomer of butanol which is ICH class 3.

						5000ppm limit
12	2-methylpropanal	78-84-2	994	5.60	0.78	
13	Butanal or 2-butanone	e.g. 123-72-8	912	6.72	0.93	
15	Tetrahydrofuran	109-99-9	973	7.61	1.05	ICH Class 2. 720 ppm limit
16	Cyclohexane	110-82-7	830	8.17	1.13	
17	Isopropyl acetate	108-21-4	919	9.07	1.26	
18	Propanoic acid, ethyl ester	105-37-3	915	11.33	1.57	
19	Propyl acetate	109-60-4	935	11.57	1.60	
21	N-Nitrosodimethylamine (tentative)	62-75-9	999	15.93	2.21	
22	Butyl acetate	123-86-4	912	16.90	2.34	
24	Branched alkane	Group ID	954	23.27	3.23	

Table 9: Tentative identification of unknowns detected in Valsartan (Batch 18-046M01)

Assigned peak (tentative)	VOC	CAS No.	NIST fit	RT (min)	RRT ^[3]	Comments KOM 05 June 2018
3	Propane	74-98-6	843	2.06	0.29	
4	Butane	106-97-8	891	2.51	0.35	

7	Acetone	67-64-1	923	4.21	0.58	
8	2-Propanol	67-63-0	970	4.35	0.60	
10	2-methylpentane	107-83-5	886	4.90	0.68	
12	2-methylpropanal	78-84-2	999	5.60	0.78	
13	Butanal or 2-butanone	e.g. 123-72-8	915	6.72	0.93	
15	Tetrahydrofuran	109-99-9	859	7.61	1.06	
16	Formic acid, 1,1-dimethylethyl ester	762-75-4	931	7.79	1.08	Formic acid is class 3. 5000ppm limit
17	Isopropyl acetate	108-21-4	898	9.07	1.26	
18	Propanoic acid, ethyl ester	105-37-3	897	11.33	1.57	
19	N-Nitrosodimethylamine (tentative)	62-75-9	969	15.92	2.21	
20	Butyl acetate	123-86-4	881	16.91	2.35	
21	N,N-Dimethylacetamide	127-19-5	881	22.28	3.09	
22	Branched alkane	Group ID	957	23.27	3.23	

Best regards,

Kevin O'Mahony

AS&T Expert

External Supply Operations (ESO)

Novartis International

Pharmaceutical Ltd., Branch Ireland

IE- Ringaskiddy, County Cork

IRELAND

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From: Quinn, Jannine

Sent: 04 June 2018 23:26

To: xavier; OMahony, Kevin

Cc: tangyinhu; chenyingzhi@huahaipharm.com; Breen, Sarah; Hu, Brad; Zhu, Bin-1; 徐覓; zhuling; 'Minda Cai'; peng dong; xiongying; minli; jenson

Subject: RE: RE: Valsartan ESO GC Results- Unknown Peaks

Dear Xavier,

As a follow up to the DS Lot risk assessment can you advise if dichloromethane is a specified solvent in the starting material? Further to this, is it be possible to control the presence of dichloromethane in the starting material to ensure that the resulting DS lots consistently contain less than 60ppm of this solvent.

Further to this, it is noted that of the 8 samples DS lots which were quantified, 6 lots demonstrate a consistent level of dichloromethane (21-28ppm). The two remaining lots are higher at 62 and 78 ppm dichloromethane.

Can you comment on the following questions:-

- Did the 2 DS lots C5523-18-031M and C5523-18-033M used a specific lot of the starting material i.e. can we attribute a cause to the higher levels seen in these 2 lots?
- Is there evidence or a hypothesis to suggest that the typical level of dichloromethane should be in the range of 21 – 28ppm or is the range of 21 – 78ppm dichloromethane representative of the process?
- Do you propose to introduce a control for this material to ensure it is below 60ppm i.e. 10% of the ICH limit?

Thank you,

Jannine

Jannine Quinn

Project Team Leader [Launch and Transfer]

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jannine.quinn@novartis.com

**Novartis International Pharmaceutical Ltd,
Branch Ireland (NIPBI),
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From: xavier [mailto:xavier@huahaipharm.com]

Sent: 04 June 2018 06:51

To: Quinn, Jannine; OMahony, Kevin

Cc: tangyinhua; chenyingzhi@huahaipharm.com; Breen, Sarah; Hu, Brad; Zhu, Bin-1; 徐觅; zhuling; 'Minda Cai'; peng dong; xiongying; minli; jenson

Subject: Re: RE: Valsartan ESO GC Results- Unknown Peaks

Dear Kevin, dear Jannine,

As promised, please kindly find the enclosed risk assessment for the additional batches as required.

Please kindly let us know if you have any further questions.

Best Regards

HUAHAI PHARM

Mr. Xavier Tang 汤风扬

Regional Representative, Sales & Marketing

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From: Quinn, Jannine

Date: 2018-06-01 15:05

To: xavier; OMahony, Kevin

CC: tangyinhua; chenyingzhi@huahaipharm.com; Breen, Sarah; Hu, Brad; Zhu, Bin-1; 徐觅; zhuling; Cai; peng dong; xiongying; minli; Jenson

Subject: RE: RE: Valsartan ESO GC Results- Unknown Peaks

Dear Xavier,

Thank you for your assistance with this.

Best regards,
Jannine

Jannine Quinn
Project Team Leader [Launch and Transfer]

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Novartis International Pharmaceutical Ltd,
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From: xavier [mailto:xavier@huahaipharm.com]

Sent: 01 June 2018 08:04

To: Quinn, Jannine; OMahony, Kevin

Cc: tangyinhua; chenyingzhi@huahaipharm.com; Breen, Sarah; Hu, Brad; Zhu, Bin-1; 徐覓;
zhuling; Cai; peng dong; xiongying; minli; Jenson

Subject: Re: RE: Valsartan ESO GC Results- Unknown Peaks

Dear Jannie,

As agreed on today's TC, we will feedback with the risk assessment for the batches mentioned below by next Monday afternoon.

Best Regards

HUAHAI PHARM

Mr. Xavier Tang 汤风扬

Regional Representative, Sales & Marketing

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From: Quinn, Jannine

Date: 2018-05-31 22:49

To: [xavier](mailto:xavier@huahaipharm.com); OMahony, Kevin

CC: [tangyinhu](mailto:tangyinhu@huahaipharm.com); chenyingzhi@huahaipharm.com; Breen, Sarah; Hu, Brad; Zhu, Bin-1; Karen Xu; 朱玲; 'Minda Cai'; [peng dong](mailto:pengdong@huahaipharm.com); [xiongying](mailto:xiongying@huahaipharm.com); [minli](mailto:minli@huahaipharm.com); [jenson](mailto:jenson@huahaipharm.com)

Subject: RE: Re: Valsartan ESO GC Results- Unknown Peaks

Dear Xavier,

Thanks to you and your team for providing the investigation report of the unknown peak in residual solvent of Valsartan in such a short timeframe to support the Novartis timeline for first Drug Substance release for Drug Product Validation.

Kevin is working through your report currently.

In the meanwhile, can you complete an evaluation of the lots already supplied to Novartis to confirm that the residual solvents peak responses for those individual batches are within the limits defined in the report.

Could you give your first attention to the lots listed below as these DS lots are to be used during next weeks for the first DP validations.

#18-028M01
#18-029M01
#18-030M01
#18-031M01
#18-033M01
#18-009M01
#18-010M01
#18-011M01
#18-012M01
#18-013M01
#18-019M01
#18-020M01
#18-014M01
#18-027M01
#18-032M01
#18-034M01
#18-035M01

Your assistance with this is much appreciated.

Thank you,
Jannine

Jannine Quinn

Project Team Leader [Launch and Transfer]

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Novartis International Pharmaceutical Ltd,
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From: xavier [<mailto:xavier@huahaipharm.com>]

Sent: 31 May 2018 13:38

To: OMahony, Kevin

Cc: tangyinhua; Quinn, Jannine; chenyingzhi@huahaipharm.com; Breen, Sarah; Hu, Brad; Zhu, Bin-1; Karen Xu; 朱玲; 'Minda Cai'; peng dong; xiongying; minli; jenson

Subject: Re: Re: Valsartan ESO GC Results- Unknown Peaks

Dear Kevin,

Sorry to keep you waiting.

Please kindly find our investigation report of the unknown peak in residual solvent of Valsartan as attached.

Please also check the Chromatogram by Novartis method and the Identification of Dimethyl sulfide as required.

If you have any further queries, please feel free to let us know.

Thank you.

Best Regards

HUAHAI PHARM

Mr. Xavier Tang 汤风扬

Regional Representative, Sales & Marketing

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From: xavier

Date: 2018-05-30 08:30

To: OMahony, Kevin

CC: tangyinhua; Quinn, Jannine; chenyingzhi@huahaipharm.com; Breen, Sarah; Hu, Brad; Zhu, Bin-1; 徐觅; zhuling; Cai; peng dong; xiongying; minli; Jenson

Subject: Re: RE: Valsartan ESO GC Results- Unknown Peaks

Dear Kevin,

Sure, we will do our best.

Best Regards

HUAHAI PHARM

Mr. Xavier Tang 汤风扬

Regional Representative, Sales & Marketing

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From: OMahony, Kevin

Date: 2018-05-29 17:57

To: Huahaipharm

CC: tangyinhua; Quinn, Jannine; chenyingzhi@huahaipharm.com; Breen, Sarah; Hu, Brad; Zhu, Bin-1; 徐觅; 朱玲; Cai; peng dong; xiongying; minli; jenson

Subject: RE: Valsartan ESO GC Results- Unknown Peaks

Hi Xavier,

Would it be possible to share the initial data by Thursday 31st as

we are looking to release by 31st June?

Best regards,

Kevin O'Mahony
AS&T Expert
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From: Huahaipharm [mailto:xavier@huahaipharm.com]

Sent: 29 May 2018 10:55

To: OMahony, Kevin

Cc: tangyinhua; Quinn, Jannine; chenyingzhi@huahaipharm.com;
Breen, Sarah; Hu, Brad; Zhu, Bin-1; 徐觅; 朱玲; Cai; peng dong;
xiongying; minli; jenson

Subject: Re: Valsartan ESO GC Results- Unknown Peaks

Hi Kevin,

Yes, studying work is on-going.

We will try the best to provide report including all info.
you required on 1st June.

sent from my iPhone

在 2018年5月29日, 17:40, OMahony, Kevin

<kevin.omahony@novartis.com> 写道:

Dear Xavier,

Is there an update on how the identification work is
going at Huahai?

Best regards,

Kevin O'Mahony
AS&T Expert
External Supply Operations (ESO)
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From: xavier [<mailto:xavier@huahaipharm.com>]

Sent: 25 May 2018 09:44

To: OMahony, Kevin; tangyinhua; Quinn, Jannine;
chenyingzhi@huahaipharm.com; Breen, Sarah

Cc: Hu, Brad; Zhu, Bin-1; 徐冕; 朱玲; Cai; peng dong;
xiongying; minli; jenson

Subject: Re: RE: Valsartan ESO GC Results- Unknown Peaks

Dear Kevin and Brad,

It was our great pleasure to have the TC with you today.

As agreed, we will try best to provide the report including the information as required by 31st May.

Best Regards

HUAHAI PHARM

Mr. Xavier Tang 汤风扬

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发件人: OMahony, Kevin
发送时间: 2018-05-24 17:43
收件人: xavier; tangyinhua; Quinn, Jannine;
chenyingzhi@huahaipharm.com; Breen, Sarah
抄送: Hu, Brad; Zhu, Bin-1; 徐冕; 朱玲; Cai; peng
dong; xiongying
主题: RE: RE: Valsartan ESO GC Results- Unknown Peaks

Thanks Xavier for you and your colleagues support with this.

- We actually use NMP as solvent so I am not certain that the larger peak after ethanol in our chromatogram is dimethyl sulphide. Have you some data to support your assessment of this peak by spiking or GC-MS etc.?

HH: Yes, please kindly find the chromatogram of GC-MS & Identification as attached.

[KOM 24 May 2018]: Thank you. As this peak is an interaction between DMSO and Valsartan this I not likely one of the peaks we are seeing in Novartis.

- Hexane and Dichloromethane are part of the Huahai validation but are not specified impurities in your method or the Novartis one so we have to consider how we deal with residual levels of these solvents in testing of the API to ensure that they are correctly identified and can be proven in each sample to be less than the ICH limits.

HH: Hexane and Dichloromethane are not intentionally added in our manufacturing process (Dichloromethane is introduced from the SM 4' - Bromomethyl-2' -cyano-1, 1' -biphenyl). After reviewing the historical data from Valsartan batches, the content of Dichloromethane is within the range of 14-77ppm, the content of Hexane is below 1ppm, both residues are far below ICH limit. (ICH limit: Dichloromethane 600ppm; Hexane 290ppm)

[KOM 24 May 2018]: Would it be possible to assess what level we are seeing in the Huahai batches listed in the word document. I appreciate you cannot necessarily re-analyse the batches but it would be good to have an idea of what level we are seeing now.

Maybe this would be possible by running a solution of hexane and DCM at low levels on the same GC as an indication of response? Or else if you are doing further GC-MS testing you may be able to properly identity/quantify them.

- For the Ethyl-propionate and n-propyl acetate proposed have you a proposed source?

HH: Introduced from solvent ethyl acetate.

[KOM 24 May 2018]: What specifications would be appropriate for these?

- Have you any possibility of performing identification work on the unidentified peaks?
HH: We are proceeding the investigation on the unidentified peaks. We will keep you closely updated.

[KOM 24 May 2018]: Thank you very much

I think that it may be a good ideal to have a call tomorrow to discuss the progress and action plans. I will set up a call.

Best regards,

Kevin O'Mahony

AS&T Expert
External Supply Operations (ESO)
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From: xavier

[<mailto:xavier@huahaipharm.com>]

Sent: 24 May 2018 10:18

To: OMahony, Kevin; tangyinhua; Quinn, Jannine; chenyingzhi@huahaipharm.com; Breen, Sarah

Cc: Carmody, Corinna; Donnellan, Keith; Kearney, David; Doherty, Barry; Hu, Brad; Zhu, Bin-1; Higgins, Susan; 徐冕; 朱玲; Cai; peng dong; xiongying

Subject: Re: RE: Valsartan ESO GC Results-Unknown Peaks

Dear Kevin,

Please kindly find the feedback from our QC as below:

We actually use NMP as solvent so I am not certain that the larger peak after ethanol in our chromatogram is dimethyl sulphide. Have you some data to support your assessment of this peak by spiking or GC-MS etc.?

HH: Yes, please kindly find the chromatogram of GC-MS & Identification as attached.

Hexane and Dichloromethane are part of the Huahai validation but are not specified impurities in your method or the Novartis one so we have to consider how we deal with residual levels of these solvents in testing of the API to ensure that they are correctly identified and can be proven in each sample to be less than the ICH limits.

HH: Hexane and Dichloromethane are not intentionally added in our manufacturing process (Dichloromethane is introduced from the SM 4' - Bromomethyl-2' -cyano-1, 1' -biphenyl). After reviewing the historical data from Valsartan batches, the content of Dichloromethane is within the range of 14-77ppm, the content of Hexane is below 1ppm, both residues are far below ICH limit. (ICH limit: Dichloromethane 600ppm; Hexane 290ppm)

For the Ethyl-propionate and n-propyl acetate proposed have you a proposed source?

HH: Introduced from solvent ethyl acetate.

Have you any possibility of performing identification work on the unidentified peaks?

HH: We are proceeding the investigation on the unidentified peaks. We will keep you closely updated.

Please kindly let us know if you have any further query.

Best Regards

HUAHAI PHARM

Mr. Xavier Tang 汤风扬

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From: OMahony, Kevin

Date: 2018-05-23 17:43

To: [xavier](mailto:xavier@huahaipharm.com); [tangyinhua](mailto:tangyinhua@huahaipharm.com); Quinn, Jannine;
chenyingzhi@huahaipharm.com; Breen,
Sarah

CC: Carmody, Corinna; Donnellan, Keith;
Kearney, David; Doherty, Barry; Hu, Brad;
Zhu, Bin-1; Higgins, Susan; Karen Xu;
朱玲; Cai

Subject: RE: RE: Valsartan ESO GC
Results- Unknown Peaks

Dear Xavier,

Thank you for the feedback.

We actually use NMP as solvent so I
am not certain that the larger peak
after ethanol in our chromatogram is
dimethyl sulphide. Have you some
data to support your assessment of
this peak by spiking or GC-MS etc.?

Hexane and Dichloromethane are part
of the Huahai validation but are not
specified impurities in your method or
the Novartis one so we have to
consider how we deal with residual
levels of these solvents in testing of
the API to ensure that they are
correctly identified and can be proven
in each sample to be less than the ICH
limits.

For the Ethyl-propionate and n-propyl acetate proposed have you a proposed source?

Have you any possibility of performing identification work on the unidentified peaks?

Best regards,

Kevin O'Mahony
AS&T Expert
External Supply Operations (ESO)
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From: xavier
[mailto:xavier@huahaipharm.com]

Sent: 23 May 2018 09:55

To: OMahony, Kevin; tangyinhua;
Quinn, Jannine;
chenyingzhi@huahaipharm.com;
Breen, Sarah

Cc: Carmody, Corinna; Donnellan,
Keith; Kearney, David; Doherty, Barry;
Hu, Brad; Zhu, Bin-1; Higgins, Susan;
Karen Xu; 朱玲; Cai

Subject: Re: RE: Valsartan ESO GC
Results- Unknown Peaks

Dear Kevin,

Please kindly find the feedback from
our QC as below.

We have marked the peaks with our
comments on the chromatogram.

<image001.jpg>

*Dimethyl sulfide: Introduced from the
reaction between Valsartan and DMSO

which is the diluent of residual solvent method

**Unspecified peak 3: Introduced from the reaction between Valsartan and DMSO which is the diluent of residual solvent method

Please kindly let us know if you have any further queries.

Best Regards

HUAHAI PHARM

Mr. Xavier Tang 汤风扬

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From: OMahony, Kevin
Date: 2018-05-22 17:04
To: [xavier](#); [tangyinhua](#); [Quinn, Jannine](#);
chenyingzhi@huahaipharm.com;
[Breen, Sarah](#)
CC: [Carmody, Corinna](#);
[Donnellan, Keith](#); [Kearney, David](#); [Doherty, Barry](#); [Hu, Brad](#);
[Zhu, Bin-1](#); [Higgins, Susan](#)
Subject: RE: FW: Valsartan ESO GC Results- Unknown Peaks

Thank you very much Xavier for providing the chromatograms.

It is good to see that we are seeing some extra peaks in Huahai chromatograms and that we are aligned in this.

Is there any information on what these extra peaks are? In particular the one after ethanol?

Also would it be possible to get the chromatograms from the second method at Huahai that is used for MTBE and DMF?

We will be providing our chromatograms today also.

<image002.png>

Best regards,

Kevin O'Mahony
AS&T Expert
External Supply Operations
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From: xavier
[<mailto:xavier@huahaipharm.com>]

Sent: 22 May 2018 04:27

To: OMahony, Kevin;
tangyinhua; Quinn, Jannine;
chenyingzhi@huahaipharm.com;
Breen, Sarah

Cc: Carmody, Corinna;
Donnellan, Keith; Kearney,

David; Doherty, Barry; Hu,
Brad; Zhu, Bin-1

Subject: Re: FW: Valsartan
ESO GC Results- Unknown
Peaks

Dear Kevin,

Our QC will check and
comment soon.

Meanwhile, could you please
kindly provide the
chromatograms including
peak areas for all related
batches?

Thanks a lot.

Best Regards

HUAHAI PHARM

Mr. Xavier Tang 汤风扬

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From: OMahony, Kevin

Date: 2018-05-22 00:00
To: tangyinhua; xavier; Quinn, Jannine; chenyingzhi@huahaipharm.com; Breen, Sarah
CC: Carmody, Corinna; Donnellan, Keith; Kearney, David; Doherty, Barry; Hu, Brad; Zhu, Bin-1
Subject: FW: Valsartan ESO GC Results- Unknown Peaks

Dear Huahai
colleagues,

During our analysis of residual solvents by GC (using a combined method) at Novartis we have found a number of solvents that we cannot identify for the following batches.

The peak areas vary depending on the batch. These are the batches analysed.

<u>Batch Number:</u>	
#18-014M01	#18-039M01
#18-027M01	#18-040M01
#18-032M01	#18-041M01
#18-034M01	#18-042M01
#18-035M01	#18-043M01
#18-036M01	#18-044M01

#18-037M01	#18-045M01
#18-038M01	#18-046M01

Please see these highlighted and zoomed in on Figure 1 and compared to solvent and reporting limit reference solution in figure 2.

We do use a different method but would expect you to have these peaks also if product related. I have attached the GC method for your convenience.

I would appreciate your support on this and feel free to call me if any further information is required.

**Figure 1:
Zoomed in
chromatogram
of a Huahai
batch #18-
038M01**

<image003.png>

**Figure 2:
Zoomed out
chromatogram
of a Huahai
batch #18-
038M01
compared to a
solvent and
reference
solution
2.**

<image004.png>

Best regards,

Kevin O'Mahony
AS&T Expert
External Supply
Operations (ESO)
Novartis International
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Branch Ireland
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From: Kearney,
David

Sent: 21 May 2018
15:18
To: OMahony, Kevin
Cc: Breen, Sarah;
Donnellan, Keith;
Carmody, Corinna;
Higgins, Susan
Subject: Valsartan
ESO GC Results-
Unknown Peaks

Hi Kevin,

We have noted a number of unknown peaks in the chromatography for the Valsartan samples we are testing for ESO. Below is a screenshot of a sample in the current sequence with the 3 largest unknown peaks highlighted. I've included a solvent and RS2 chromatogram for comparison. The chromatography is typical across all Valsartan ESO samples tested so far however there is a significant variation, throughout the samples, in the peak area for the unknown peak at RT 2.7 in particular

<image003.png>

<image005.png>

We will be proceeding with an AQWA investigation to investigate these unknown peaks.

Just note that the raw data is still in the review process therefore the investigation will only be initiated once the raw data has been fully secondary reviewed.

Any questions let me know,

Thanking You and
Kind Regards,
David

David Kearney
QC Analyst, High
Volume 1 Testing unit,

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^[1] Relative to ethyl acetate, see section 2.4 for calculation.

[2] Relative to ethyl acetate, see section 2.4 for calculation.

[3] Relative to ethyl acetate, see section 2.4 for calculation.